PHENOCOLL HYDROCHLORATE.

By ISAAC OTT, M.D.

THIS body is a white crystalline powder, soluble in sixteen parts of water at 62° F. It is the hydrochlorate salt of amido-acet-para-phenetidin. This new combination is a phenacetin rendered soluble by the addition of an amido group. Alkalies and alkaline carbonates throw down from the hydrochlorate solution the pure base, phenocoll.

The pure base is soluble in hot water, but dissolves to only a small extent in cold water.

Boiling phenocoll for a long time with alkalies causes this body to split up into phenetidin and glycocoll.

Lately, through the kindness of Messrs. Lehn and Fink, I have received a sample of the above described body.

GENERAL ACTION.—*Exp. 1.*—Frog; received at 11.45 A.M., two grains of phenocoll, subcutaneously; 11.54 A.M., does not respond to irritants as quickly as formerly; sluggish in movement; 11.20 A.M., does not react to any irritation; lies with feet extended; 1.30 P.M., heart arrested in diastole; motor nerves respond to faradic current.

Exp. 2.—Large frog; received at 1.48 P.M., two grains of phenocoll, subcutaneously; 2.05 P.M., seems more active than previous to medication; 2.40 P.M., no sign of feebleness in movement; 3.30 P.M., very sluggish in his movements; 5.44 P.M., lies prostrate, but has fair reflexes in posterior extremities; next morning is nearly completely paralyzed; no reflexes; at mid-day of the second day has recovered sufficiently to hop about; 5.30 P.M. of the same day is still nearly paralyzed; in same condition at 9 P.M.; on third day, at 8.15, all reflexes lost, except the eyelid reflex; died during the day.

Exp. 3.—Rabbit; at 4.25 P.M. received 7 grains of phenocoll, subcutaneously; 4.30 P.M., breathes more rapidly; 4.35 P.M., received 10 grains subcutaneously; 4.45

P.M., cyanosis of ears; weakness in posterior extremities; 5 P.M., remains quiet, but can hop about; 9.30 P.M., has fully recovered.

The drug causes in frogs sluggish movements, loss of general reflexes and arrest of heart in diastole.

Upon rabbits subcutaneously it causes quietude, cyanosis of the ears and weakness in posterior extremities. By the jugular it causes in large doses arrest of the heart.

SENSORY NERVES.—*Exp. 4.*—Frog; had left artery and vein ligated; 3.26 P.M., 1 grain of phenocoll, subcutaneously; 3.27 P.M., hops about; 3.34 P.M., quite lively; no differences in the reflexes of the posterior extremities; 3.35 P.M., 1 grain of phenocoll, subcutaneously; 4.07 P.M., sulphuric acid applied to either posterior extremity caused no reflex action.

In the preceding experiment it was demonstrated that the motor nerves respond to electrical current. Hence, loss of the reflexes must be due to the paralysis of sensory nerve endings or the spinal cord. By the ligature the poison is prevented from reaching the end of the sensory nerves. Hence, the loss of reflex activity is due to an action upon the spinal cord.

EXPERIMENT V.—RABBIT; ACTION UPON THE CIRCULATION.

A. M.	Pulse per 15 sec.	Pressure.	Resp. for 15 sec.
11.44	72	120	40
11.45.15 1-4 gr. phenocoll per jugular.			
11.45.30	68	118	36
11.45.45	67	118	28
11.46. 1-4 gr. phenocoll.			
11.46.15	66	118	32
11.47	63	116	32
11.51	66	112	32
12.10	64	100	28
12.11	36	98	20

EXPERIMENT VI.—RABBIT.

M.	Pulse.	Pressure.
12	58	86
12.00.15. 1-8 gr. phenocoll by jugular.		
12.00.30	63	70
12.00.45	55	90
12.01	53	80

EXPERIMENT VI., *continued.*

M.	Pulse.	Pressure.
12.02.15	54	74
12.02.30. 1-4 gr. phenocoll.		
12.02.45	55	60
12.03	51	74
12.04	53	72
12.05	55	72
12.10	55	72
12.10.15. 1-2 gr. phenocoll.		
12.10.30	55	60
12.20	58	66
12.20.15 1-2 gr. phenocoll, cardial arrest for 5 seconds	38	60
12.21	53	70
12.51	60	70

The action of phenocoll upon the circulation is one of depression. The pulse and arterial pressure fall after a dose by the jugular.

To determine if this reduction was due to irritation of the cardio-inhibitory apparatus, a small dose of atropin was given by the jugular to paralyze the peripheral endings of the pneumogastric.

EXPERIMENT VII.—RABBIT.

Vagi paralyzed by a small dose of atropin.

P. M.	Pulse.	Pressure.
4.	57	70
4.00.15. 1 gr. of phenocoll by the jugular	56	19
4.00.30	50	40
4.01.30	54	60
4.02.30	59	60
4.03	60	60
4.13	65	64

This experiment demonstrates that the reduction of the pulse is not due to an excitation of the pneumogastric, but that the cause must reside in the heart itself.

To determine the effect upon the vasomotor system, the spinal cord was divided at the level of the atlas and all the cardiac nerves in the neck.

EXPERIMENT VIII.—RABBIT.

All the cardiac nerves in the neck cut. Spinal cord cut at atlas.

P. M.		Pulse.	Pressure.
4..		61	40
4.00.15.	1.4 gr. phenocoll per jugular.		
4.08.30		53	36
4.00.45		51	35
4.01		51	32
4.01.15		51	32
4.01.30.	1-4 gr. phenocoll per jugular.		
4.02.30		49	28
4.02.45	1-2 gr. phenocoll per jugular.		
4.03.45		45	28
4.05		43	28
4.08		44	26
4.13		44	14
4.15.	1 gr. phenocoll per jugular ; arrest of the heart for a minute		10
4 18		38	28

As is seen, the blood pressure falls just as rapidly without the main vasomotor centre being attached. It is reasonable to infer that weakness of the heart itself is one of the principal factors in the depression of arterial tension.

EXPERIMENT IX.—RABBIT ; RESPIRATION.

P. M.		Resp. for 15 seconds.
1		30
1.00.15.	1-8 gr. phenocoll per jugular.	
1.01		41
1.02		40
1.03		46
1.04		35
1.05		18
1.06		14
1.08		23
1.09		27
1.09.30.	1-4 gr. phenocoll per jugular.	
1.10		25
1.04		15
1.05.	1-8 gr. phenocoll per jugular.	
1.06		15
1.08		14
1.09.	1-2 gr. phenocoll per jugular.	13
1.11		15
1.13.	2 grains phenocoll per jugular.	
1.18		15

EXPERIMENT IX., *continued*.

P.M.		Resp. for 15 seconds.
1.19.	1 grain phenocoll per jugular.	
1.21		34
1.21.15.	2 grains phenocoll per jugular.	
1.23		38
1.24		56
1.25.	5 grains phenocoll per jugular.	
1.26		44
1.28.	Respiration arrested ; heart beating feebly.	

Eleven grains of phenocoll, per jugular, killed the animal.

EXPERIMENT X.—RABBIT ; VAGI DIVIDED.

P. M.		Resp. for 15 seconds.
1		13
1.00.15.	1-4 gr. phenocoll per jugular	30
1.C1		16
1.04		16
1.11		17
1.15		23
1.15.15.	1 4 gr. phenocoll.	
1.16		20
1.17		29
1.17.	1-2 gr. phenocoll.	
1.18		20
1.20		18
1.20.15.	1 gr. phenocoll	26
1.21.	Animal dead ; heart beating.	

Two and a half grains of phenocoll killed the animal.

EXPERIMENT XI.—RABBIT ; VAGI DIVIDED.

P. M.		Resp. for 15 seconds.
4.30		18
4.33.	1 gr. of phenocoll per jugular.	
4.35		18
4.37		20
4.42		24
4.45		24
4.47.	1 gr. of phenocoll per jugular	26
4.48		26
4.55		32
5		32

Phenocoll first increases the respiratory movements and then reduces them. Previous division of the vagi does not change the state of affairs.

EXPERIMENT XII.—RABBIT ; TEMPERATURE.

A. M.		Temperature.
9.26		103.1
9.27.	1 gr. of phenocoll, subcutaneously.	
9.38.	Ears bluish	102.8
9.48		102.7
10.30		102.5
11 15		102.9
11.17.	2 grains of phenocoll.	
11.35		102.8
11.58		102 2
12.50		102.2
1.30.	Ears cyanosed	103

As is seen, it temporarily reduces the temperature of the body.

Phenocoll is a drug which may be recommended in the pains of influenza, rheumatism and gout. In the neuralgias of the intercostal or other peripheral nerves it will be found valuable. As an antipyretic its action is not of long endurance.

Unlike phenacetin, it is soluble in water and probably quite as effective for the subjugation of pain.

For the reduction of fever phenacetin is superior.

INCENDIARISM COMMITTED THROUGH HYPNOTIC INFLUENCE.

In the "Bulletin Général de Thérapeutique" for Aug. 30, 1891, Professor Auguste Voisin describes an interesting case of a young woman who, under an hypnotic suggestion, committed acts of a criminal character, thus fortifying the position taken by the Nancy school in the famous Eyraud trial as against the school of the Salpêtrière. The conclusions arrived at by Professor Voisin are: That the individual may, under the influence of an hypnotic suggestion, commit a criminal act. Secondly, that the judge possesses, in this same hypnotism, the means of recognizing the true criminal. He can distinguish between the evil spirit who incites the crime and the innocent hand which enacts the deed.

W. C. K.